CS3630: Setting up Fluke and Scribbler

You can find basic information on the Fluke and it's hardware here: http://www.betterbots.com/cshop/fluke2

Setup your Fluke and Scribbler

One of the main components of this assignment is setting up your Fluke and Scribbler combination. One of the key components you will need is a way to communicate with a bluetooth device. If your laptop doesn't have built in bluetooth capabilities, you can purchase a USB-Bluetooth adapter for about $20 at a local bookstore/electronics shop.

The following steps will walk you through setting up your computer and scribbler:

Setup your Bluetooth

The Fluke communicates with your laptop via a Bluetooth interface. We are going to be sending commands from a laptop running an algorithm to the Fluke which will in turn command the motors.

Below are some links to the instructions I've found useful in setting up a Bluetooth interface for the Fluke. If you've found better instructions for your platform, please post it on Piazza!

- Ubuntu: http://wiki.roboteducation.org/wiki/images/8/8e/Myro_setup_LINUX_Ubuntu.txt
- Linux (Any distro): http://wiki.roboteducation.org/Bluetooth_setup_on_Linux
- Windows: http://calicoproject.org/Bluetooth_Setup_for_Calico_on_Windows_7
- OSX: http://calicoproject.org/Bluetooth_Setup_for_Calico_Myro_on_Mac_OSX

Test your setup

The best way to test the setup is to try and connect to your robot from Python. Either write a script or open a new interpreter and run the following:

Algorithm 1 Test Bluetooth

```
import serial
import string

# Function which formats data into 9 character packets
def write(ser, rawdata):
  t = map(lambda x: chr(int(x)), rawdata)
  data = string.join(t, '') + (chr(0) * (9 - len(t)))[:9]
  ser.write(data)

#Linux example serial.Serial('/dev/rfcomm0', 57600)
#Windows example serial.Serial('COM1', 57600)
#OSX example serial.Serial('/dev/tty.usbmodemfa141', 57600)
s = serial.Serial('your_port_info_here', 57600) # Should connect
write(s, [116]) # Turn on Fluke LED
write(s, [109, 200, 200]) # Turn on motors!
write(s, [108]) # Turn off motors
```

Note that the way the Fluke communicates is sending packets of 9 characters to the spin firmware. Some example commands have been provided, but for more examples see this page: http://calicoproject.org/Hacking_the_Fluke#The_Byte_Codes